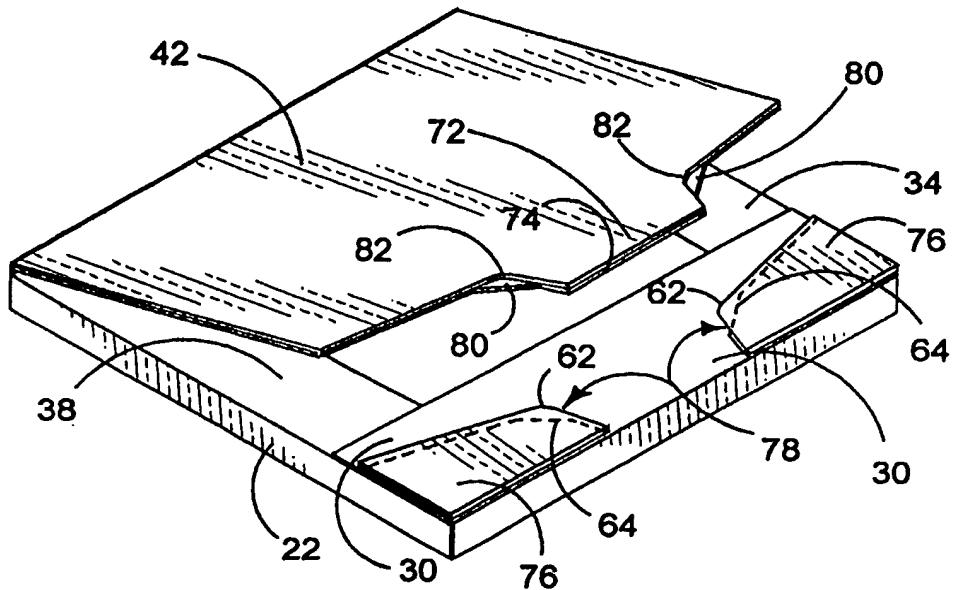




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(54) Title: CARTON AND CARTON BLANK



(57) Abstract

A sleeve and a blank for forming a sleeve for holding information discs or the like, comprising a reclosable cover flap (42, 46) to close the open end and a front face of the sleeve said cover flap being frangibly connected at one of its ends to the said front face when closed and including fastening means (76) to cooperate with a panel of said front face to reclose the sleeve after opening, the fastening means being engaged by relative sliding movement between said cover flap and said one front panel.

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- 1 -

CARTON AND CARTON BLANK

Background of the Invention

5 The invention relates to a carton or sleeve for accommodating one or more articles for example information discs or the like formed from one or more blanks of paperboard or other suitable foldable sheet material and more particularly to a sleeve capable of being formed into a sealed compartment including a cover flap with mean for releasably fastening the cover flap to the carton.

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The invention is particularly useful where it is desirable for cartons containing articles to be enclosed to protect the or each article, for example information discs or foodstuffs. Furthermore, the carton should preferably be reclosable to allow it to be reused.

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One example of reclosable sleeves formed from one or more blanks of cardboard is found in US 3,078,030 which illustrates a carton having integral hinged top that it reclosable. The top is provided by a front cover panel and a spacer panel secured to one side of the front cover panel to interfit with a mating upper portion of the front panel of a box. Fastening means is formed from a detached double layer portion of the front panel. However, the detached portion is attached to the inside surface of the cover flap resulting in a stepped non-flat front surface.

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In US 3,894,680 there is provided a dispensing spout in a carton box adapted to accommodate powdery materials, for example detergents, which spout is adapted to keep closed after it has been cut out. The fastening means is formed from a detached triple layer portion of the front panel but it does not define a pocket to retain the spout.

Summary of the Invention

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30 The present invention and its preferred embodiments seek to overcome or at least mitigate the problems of the prior art.

According to a first aspect of the invention there is provided a sleeve for holding information discs or the like, comprising a reclosable cover flap to close the open end and a front face of the sleeve said cover flap being frangibly connected at one of its ends to the said front face when closed and including fastening means to cooperate with a panel of said front face to reclose the sleeve after opening, the fastening means being engaged by relative sliding movement between said cover flap and said one front panel.

According to an optional feature of this aspect of the invention the fastening means may comprise a double layer tab on the front panel and when detached said double layer tab defines between its outer layer and said front panel a pocket for receiving a complementary portion of the cover flap. Preferably, the pocket may be formed between a protruding portion of the outer layer of said double layer tab and said front panel.

According to another optional feature of this aspect of the invention the cover flap may be two ply such that said complementary portion comprises a protruding portion of the inner layer of said cover flap so as to provide a fully flat front face.

According to a further optional feature of this aspect of the invention the frangible connection may be provided by a first frangible line connecting the inner layer of said two ply portion to the cover flap and a second frangible line connecting the outer layer of said two ply portion to the cover flap, the first frangible line being tapered outwardly relative the second frangible line to define said pocket and said complementary portion.

A second aspect of the present invention provides a blank for forming a sleeve for holding information discs or the like comprising back panel, opposed side and end panels hingedly connected to said back panel, a front panel hingedly connected to one of said end panels and a cover flap hingedly connected to the opposing one of said end panels and capable of relative slidable movement with said front panel and fastening means constructed and arranged to define a pocket for receiving the free edge of the cover flap when the sleeve is set up.

According to an optional feature of the second aspect of the invention the fastening means may comprise a pair of tab panels frangibly connected by frangible connection means to the cover flap and hingedly connected together to be capable of defining a two ply portion adapted to be secured to the front panel.

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According to an optional feature of this second aspect of the invention the cover flap may comprise inner and outer panels hingedly connected together along an end edge.

10 A third aspect of the invention provides a carton for holding one or more articles, for example frozen foodstuffs or the like, comprising a reclosable access flap to close parts of a double ply carton wall. The access flap is frangibly connected at one of its ends to the carton wall when closed and includes fastening means to cooperate with a panel of the carton wall to reclose the carton after opening.

15 According to an optional feature of this aspect of the invention, the reclosable access flap is a double ply structure and the inner and outer layers of the access flap are connected to inner and outer layers of the double layer carton wall along first and second frangible lines wherein a portion of the first frangible line is offset from the second frangible line so that when the access flap is severed from the carton wall along the first and second frangible lines the offset portion of the first frangible line defines a locking tab of the fastening means for engaging the outer layer of the carton wall.

20 Preferably, a portion of the second frangible line defines a second locking tab offset the first locking tab and a pocket for engaging part of the first locking tab. More preferably, the pocket is formed by a portion of the outer layer of said carton wall panel protruding into a recess formed in the inner carton wall panel for receiving the first locking tab.

25 According to another optional feature of this aspect of the invention, the inner and outer walls of the access flap are frangibly connected to be severed when the access flap is severed from the carton wall. Optionally, the access flap further comprises securing means for detachably connecting the inner and outer panels of the access flap together.

A fourth aspect of the invention provides a blank for forming a carton for holding one or more articles comprising a top wall panel, a base wall panel, opposed side panels hingedly connected together in series and end wall panels. There further comprises an access flap 5 hingedly connected to the top and base wall panels and fastening means so constructed and arranged to define a pocket for receiving part of the access flap when the carton is set up.

According to an optional feature of this aspect of the invention, the fastening means comprises a locking tab panel frangibly connected by frangible connection means to the 10 adjacent side wall.

According to another optional feature of this aspect of the invention, the access flap comprises inner and outer panels hingedly connected to the top and bottom wall panels respectively along an end edge.

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Brief Description of the Drawings

Exemplary embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings in which:

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Figure 1 is plan view of a blank for forming a carton according to a first embodiment of the invention;

Figures 2 and 3 illustrate the blank of Figure 1 shown during the folding process;

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Figure 4 is a perspective view of the carton formed from the blank illustrated in Figure 1 in a set-up and loaded condition;

Figure 5 is a perspective view of the carton shown in Figure 4 during use;

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FIGURE 6 illustrates a blank according to a second embodiment of the invention;

- 5 -

FIGURES 7, 8 and 9 are perspective views of a carton erected from the blank shown in Figure 6 and illustrating the various stages for opening the reclosable access flap of the second embodiment of the invention;

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FIGURE 9a illustrates a perspective view of the carton shown in Figure 7 with the reclosable access flap being reclosed;

10 FIGURES 10a, 10b and 10c are perspective views of the third embodiment of the reclosable access flap;

FIGURES 11, 12 and 13 illustrates a fourth embodiment of the reclosable access flap of the present invention;

15 FIGURE 14 is a blank according to the fifth embodiment of the invention; and

FIGURES 15 and 16 are perspective views of the carton formed from the blank shown in Figure 14.

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Detailed Description of the Preferred Embodiments

Referring first to Figure 1, there is shown a blank 10 for forming a carton (or sleeve) made from one or more blanks of paperboard or similar foldable sheet material. The sleeve is adapted to hold one or more information discs. In this embodiment, the blank 10 comprises a 25 back panel 12, opposed side panels 14 and 22 hingedly connected to back panel 12 along fold lines 16 and 24 respectively. There may further comprise opposed end panels 18 and 26 hingedly connected to the opposed end edges of back panel 12 along fold lines 20 and 28. In this embodiment, the back panel is substantially square to conform to the shape of the disc. It is envisaged that other shapes of the base panel and/or sleeve can be adopted according to the 30 shape and/or size of the article to be contained.

- 6 -

Preferably, a front panel 30 is hingedly connected to the outer edge of end panel 26 along lateral fold line 32. In this embodiment there may further comprise a pair of side support flaps 34 and 38 hingedly connected to the outer edges of side panels 14 and 22 respectively along longitudinal fold lines 36 and 40.

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One aspect of the invention provides a cover flap fastening means to reclose the sleeve after opening. The cover flap 42 is provided to cover the front face of the carton. In this embodiment, it is hingedly connected to the outer edge of end panel 18 along lateral fold line 44. Optionally, an inner cover flap 46 is hingedly connected to outer cover flap 42 along its end edge defined by fold line 48, wherein the inner cover flap corresponds in shape to the outer cover flap.

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One type of fastening means is provided by a pair of securing panels 54, 56 hingedly connected together about fold line 48 and capable of being folded to define a two ply tab.

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Figure 1 illustrates securing panel 54 detachably connected to cover flap 42 along frangible line 50 and securing panel 56 detachably connected to inner cover flap 46 along fold line 61. Preferably, a second pair of securing panels 58 and 60 that are connected to cover flaps 42 and 46 along frangible lines 52 and 63 respectively. The shape of each pair of securing panels 54, 56 and 58, 60 defines end tabs 72 and 73 extending outwardly from cover flaps 42 and 46 respectively. Panels 58 and 60 are hingedly connected together along fold line 48. Securing panel 58 is connected to cover flap 42 along frangible line 52 and securing panel 60 is connected to inner cover flap 46 along frangible line 63.

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It will be seen from Figure 1, that the configuration of frangible lines 50 and 52 differ from frangible lines 61 and 63. Accordingly, securing panels 54 and 58 comprise a protruding portion 62 and panels 56, 60 include a tapered portion 64. Thus, end tab 72 of outer cover flap 42 is defined along its side edges by frangible lines 50, 52 and is provided with a recess and, second end tab 73 extending from inner cover flap 46 has its side edges defined by frangible lines 61, 63 to taper outwardly at the base 64 of the tab neck.

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The construction of the carton is illustrated with reference to Figures 2 and 3: the inner cover flap 46 and securing panels 56, 60 are first folded about fold line 48 to be secured in face-contacting relationship with outer cover flap 42 and securing panels 54, 58 respectively to form a two ply cover flap and a double layer tab 72, 73. In this embodiment, securing means 5 is provided by glue 66 applied to outer side portions of inner cover flap 46 and the tab panels 56, 60. Cover flap 46 is folded in direction A about fold line 48 shown in Figure 2.

The carton is then loaded with one or more articles such that the article is placed on the back panel by hand or automatic machinery and side panels 14 and 22 and side support flaps 34 10 and 38 respectively are folded inwardly in direction B into spaced, overlapping relationship with back panel 12, illustrated in Figure 3. Thereafter, end panel 26 and front panel 30 are folded inwardly in direction C about fold lines 28 and 32 respectively into a spaced overlapping relationship with back panel 12 and front panel is secured to side support flaps 34, 38 by glue or other suitable means known in the art. In this embodiment, glue is applied 15 to side support flaps 34, 38 at location 70 to be secured to the front panel 30.

Finally, the two-ply cover flap 42, 46 and end panel 18 are folded inwardly in direction D about fold lines 20 and 44 respectively to form the front face of the carton and panels 56 and 60 are secured to front panel 30, preferably, by glue applied at locations 68 or other suitable 20 means known in the art.

Thus, the carton is in its completed form with an article, for example information disc or the like held in the sleeve as shown in Figure 4.

25 It is envisaged that the carton or sleeve of the present invention can be formed by a series of sequential folding and gluing operations which can be formed in a straight-line machine so that the carton is not required to be rotated or inverted to complete its construction. The folding process is not limited to that described below and can be altered according to particular manufacturing or user requirements. For example, the sleeve could be part 30 constructed whereby side flaps and front panel are secured together (after folding operations B and C) before loading it with articles. Alternatively, it is envisaged that the carton could be

supplied fully constructed in a flat collapsed condition with one of the side or end panels unsecured along one edge to provide an aperture in the side or to end load the sleeve with the or each article.

5 It will be seen from Figure 4 that there comprises a sleeve 70 for holding information discs or the like comprising a reclosable cover flap 42/46 to close the open end and a front opening of the sleeve, the cover flap 42/46 including fastening means 76 detachably connected to the cover flap 42/46 and glued to the front panel 30. After detached from the cover flap 42/46, the fastening means 76 can be engaged again by the cover flap 42/46 by relative sliding movement between the cover flap 42/46 and the front panel 30, as shown in Figure 5.

10 Turning in detail to the reclosable feature of the embodiment of the present invention, shown in Figure 5, the fastening means 76 comprises a double layer securing panel 54, 56 on the front panel 30 and, when detached, the double layer panel 54, 56 defines between its outer layer 54 and the front panel 30 a pocket 78 for receiving a complementary portion 80 of the cover flap 42/46. It will be seen the pocket 78 is defined by frangible lines 50 and 52 and frangible lines 61 and 63 respectively. The complementary portion 80 of the cover flap 42/46 is formed by the recessed portion 82 and the corresponding outwardly tapered portion of the inner ply 46 to be received in the pocket 78. Thus, the cover flap 42/46 is adapted to be engaged by the double layer panel 54, 56 on the front panel 30 by relative sliding movement between the flap 42/46 and the panel 30.

15 Turning to the second embodiment illustrated in Figures 6 to 9a there is shown a carton for packaging one or more articles, for example for frozen food or chilled foodstuffs. The blank 20 108 is formed from paperboard or similar foldable sheet material for example plastic or the like. In the second embodiment, the carton comprises an outer side wall panel 110, a top wall panel 112, a second side wall panel 114, a base wall panel 116 and an inner side wall panel 118 hingedly connected together in series along fold lines 120, 122, 124 and 126 respectively.

25 30 There may further comprises an end closure structure hingedly connected to opposing lateral ends of the blank 108. Each end closure structure, in this embodiment, comprises an outer

- 9 -

end wall panel 128 and an inner end wall panel 130 hingedly connected to top and base wall panels 112 and 116 respectively along fold lines 132 and 134. In use, the outer and inner end wall panels 128, 130 are configured to overlap when in a set up condition. One or more of the end wall panels may further comprise a gusset panel structure for interconnecting the
5 respective end wall panel to the adjacent side wall panel. It will be seen from Figure 6 that there may comprise a pair of gusset panel structures 136, 142 hingedly connected to inner end wall panel 130 along its opposing side edges by an extension of fold lines 124 and 126 respectively.

10 Each gusset panel structure 136, 142 may comprise a pair of panels 137, 139 hingedly connected to the respective side wall panels 114, 118 along fold lines 138 and 144 respectively. The gusset panels 137, 139 are connected together by a fold line 146 oriented at an acute angle with respect to fold lines 124 and 126 respectively to define triangular gusset panels 137, 139. The triangular panels 137, 139 can be folded into face contacting
15 relationship with each other during carton set up.

The opposing end structure is substantially the same as that described above with like panels being designated by the same reference numerals with the letter "a" added to the reference and is not, therefore, described in any greater detail.

20 Referring to Figure 7, a reclosable access flap structure 148 is provided, according to one class of embodiments of the invention, and is illustrated in more detail in Figure 6. The structure 148 is preferably two ply and comprises an outer wall formed from part of the side wall panel 110. The outer wall comprises an access panel 150 and, optionally, a pair of outer panel portions 152, 154 disposed along opposing side edges of panel 150. Access panel 150 is hingedly connected to the portions 152, 154 along frangible lines 156 and 158 respectively and is hingedly connected to top panel 112 along fold line 120. The portion 152 is detachably connected to the outer side wall panel 110 along frangible line 163.

25 30 The inner wall of the access structure 148 is provided by inner panel 160 which is formed from a portion of inner side panel 118 and comprises a cut line 162 in spaced relationship

- 10 -

with the free edge of panel 160, that is shaped to receive the leading edge of access panel 150 of the outer wall. There may further comprise a recess 166 shaped to receive a users finger to aid opening. Inner panel 160 is frangibly connected to inner side wall 118 along frangible line 164. There further comprises fastening means for securing the access flap structure to the 5 carton to allow it to be closed again. In this embodiment, the fastening means is provided by a locking tab 168 which is defined by frangible line 164. The locking tab 168 is oriented in a direction away from the access flap structure 148.

The construction of the carton will now be described with reference to Figures 7, 8, 9 and 9a. 10 First, a tubular structure is formed whereby outer side panel 110, and top panel 112 are folded about fold line 120 into a substantially perpendicular relationship. Similarly, second side wall panel 114 is folded out of alignment with top panel 112 and base panel 116 about fold lines 122 and 124 to be placed into a substantially perpendicular relationship with the aforementioned panels. Thereafter, inner side wall panel 118 is folded into a substantially 15 perpendicular relationship with base panel 116 about fold line 126 whereby panels 110 and 118 are placed in overlapping relationship and are secured together by suitable securing means, for example glue or other suitable means known in the art.

As regards the reclosable access flap structure, outer portions 152 and 154 are secured to 20 inner panel 160 by glue or other suitable securing means known in the art. Articles P are then loaded at one or each end of the carton by hand or automatic machinery.

Thereafter, the end wall structures are formed whereby the gusset panel structures 136, 142; 25 136a, 142a are folded about fold lines 138, 124 and 144, 126 respectively thereby causing inner end panels 130, 130a to be folded about fold lines 134 and 134a respectively into substantially perpendicular relationship. As described above the triangular panels 137, 139 of the gusset wall structures are folded into face contacting relationship about fold line 146 and abut the respective side wall, or as the case may be the inner panel 160 of the access structure.

Outer end wall is folded about fold line 132 into overlapping relationship with inner end wall 130 and is secured together by glue or other suitable means known in the art. The carton is in a loaded full erected condition as shown in Figure 7.

5 In order to gain access to the articles contained in the carton, the reclosable access flap structure 148 is opened by a user of the carton. In order to open the carton, the user first tears the access panel 150 by pulling it outwardly and upwardly to separate it from outer portions 152 and 154 along frangible lines 156 and 158 respectively to reveal inner panel 160, as shown in Figure 8. Thereafter inner panel 160 is pulled in an outward and downward direction indicated by arrow X, which causes its side edge to be separated from side wall panel 118 along frangible line 164 and for outer portion 152 to be separated from outer side wall panel 110 along frangible line 163. The frangible line 164 is shaped to define a recess 167 for receiving a corresponding locking tab 168 formed as an extension of inner panel 160, shown in Figure 9.

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In those embodiments with a gusset panel structure, the gusset panels 142a assist in maintaining the inner panel 160 of the access flap structure 148 in the position shown in Figure 9. Thus, a user has access to the articles P to be removed individually or as a group. It is envisaged that the length of the reclosable flap could be altered to allow only one item to be removed at a time, without departing from the scope of invention. In order to achieve this, frangible lines 163 and 164 would be moved along panels 110 and 118 respectively to increase or decrease the size of the opening, shown in Figure 9.

20 In order to reclose the carton, reference is made to Figure 9a in which the inner access panel 160 is folded inwardly in direction Y which causes the gusset panel 137 to be folded inwardly and into abutment with the other gusset panel 139 and inner panel 160. Locking tab 168 comes into abutment with outer side wall panel 110 and the inward folding action causes tab 168 to be deformed and pushed inwardly beyond the free edge of panel 110 to be received by the corresponding recess 167 and engaged thereto. Thereafter, outer panel 150 is folded downwards and the leading edge 169 (Figure 9A) is inserted through cut line 162 to secure the two panels together. It is envisaged that other suitable means could be employed to

detachably connect the outer panel to the inner panel in the access flap structure, for example glue to provide an airtight carton with a reclosable access flap.

5 A third embodiment of fastening means is illustrated by reference to Figures 10a, 10b and 10c wherein like panels are designated by the same reference numeral for the second embodiment and are not therefore described in any greater detail.

10 The third embodiment discloses a dual locking tab arrangement whereby the frangible line 163 separating outer side panel 110 from outer access flap 150 is shaped to define a fastening means which in this embodiment is an outer locking tab 180 and a corresponding recess 182. Preferably, the outer locking tab 180 is offset from an inner locking tab 186 shown in Figure 10c. Inner locking tab 186 is similar to locking tab 168 described in the second embodiment and shall not therefore be described in any more detail.

15 Figure 10a illustrates the access flap structure in its closed state when the carton is in its fully erected and sealed condition. Figure 10b shows the first stage in opening the access structure, whereby the outer access panel 150 is detached from its adjacent outer portions 152 and 154 and folded in an upward and outward direction.

20 The next stage is for inner panel 160 of the access flap to be folded outwardly in direction X whereby the locking tabs 180 and 186 are detached from their respective side panels 110 and 118 and moved out of alignment with panel 160 to be placed in the position shown in Figure 10c. It will be seen in Figures 10B and 10C that there comprises recesses 182 and 184 defined by forming locking tabs 180 and 186 respectively and locking tab 180 which 25 protrudes into recess 182 to engage part of the inner side wall panel 118 and, thereby, prevent the panel 160 from being pushed inwardly beyond panel 118. Thus the access flap structure can be maintained in a substantially coplanar relationship with the adjacent side wall. In order to reclose the access flap the inner panel 160 is first folded upwards and inward direction in a similar manner as described above such that inner locking tab 186 is caused to 30 be pushed underneath outer side wall panel 110 to be engaged with recess 184. Thereafter outer panel 150 is secured to inner panel 160 as described above to reseal the carton.

Figures 11, 12 and 13 illustrate a fourth embodiment of the invention which is substantially the same as the second embodiment and therefore like reference numerals are used with the addition of reference numeral "2". The carton is constructed in a similar manner to the 5 second embodiment although, in this example, there is no gusset panel structure for forming the end panels and the side panel 218 forms the outer side wall with the inner side wall being provided by panel 210. Thus it will be seen that inner and outer panels 250, 260 of the access flap structure have been reversed. Again, outer portions 252 and 254 are secured to panel 260 but in this embodiment to the inner face by glue or other suitable means known in the art.

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In order to open the access flap structure, outer panel 260 is folded in an upward and outward direction Z which causes it to be detached from the rest of the carton along frangible line 264. This action also causes inner panel 250 to become detached from its adjacent outer portions 252, 254 along the frangible lines, such that it is free to be folded in a downward and outward 15 direction Y as shown in Figure 13. In this embodiment, the locking tab 268 is formed from an extension of outer portion 252 and is capable of being folded out of alignment therefrom during opening and closure of the access flap by interference with the panels forming the side wall, thereby to cause outer panel 260 to be engaged with the side wall. In this embodiment, inner panel 250 is secured to panel 260 by suitable securing means. It is envisaged that the 20 inner panel 250 could be secured to the outer face of panel 260 during reclosing, without departing from the scope of invention.

Beneficially the fourth embodiment results in the tearing action taking place in one go during the opening of the outer panel 260, rather than two separate tearing actions as in the case of 25 the first embodiment.

The fifth embodiment of the invention is illustrated in Figures 14, 15 and 16 which shows a carton formed from the blank 308 made from paperboard or similar foldable sheet material for holding one or more articles. The construction of the blank 308 is illustrated by reference 30 to Figure 14 in which there comprises an inner side wall panel 310, an end wall panel 312, an opposing side wall panel 314, opposing end wall panel 316 and an outer side wall panel 318

- 14 -

hingedly connected together in series along fold line 320, 322, 324 and 326 respectively. There further comprises a panel structure for forming the top and base which is substantially identical and therefore reference is made to the panels forming the top only.

- 5 There comprises first top wall panel 328, glue flap 330, second top wall flap 332, glue flap 334 and an outer top wall flap 336 configured in adjacent positions one to next and hingedly connected to the panels forming the sides and ends along fold line 338. In this embodiment, panels 328, 332 and 336 are sized to overlap thereby to provide a sealed top wall.
- 10 There may further comprise an inner support panel 340 extending from inner side panel 310 which is used to provide a two ply structure for part of the side wall. Glue flap 342 may be hingedly connected to panel 340 along fold line 346.

15 An access flap structure 380, shown in Figure 15, is formed from the top wall and upper parts of the side and end walls. The access flap structure 380 is defined in part by frangible line 348 which extends across side and end panels 310, 312 and a corresponding frangible line 356 extending across side wall 318 and end wall 316. There further comprises fold line 354 extending across panel 314: its ends intersecting with frangible lines 348 and 356 respectively. Thus when the carton is formed, frangible lines 348, 356 and fold line 354 form 20 an endless fold line.

25 There may further comprise fastening means which in this embodiment is provided by a locking tab 358 and recess for allowing the access flap structure to be reclosed. In this embodiment, locking tab 358 is hingedly connected to side wall panel 318 along fold line 360 and is separated therefrom by a cut line 362 which defines the edge of the recess. Optionally, there further comprises a second locking tab 350 hingedly connected to side panel 310. In this embodiment, locking tab 350 is offset from the first locking tab 358 to provide a fastening means and that allows the upper and lower parts of the side and end walls to be re-engaged by relative sliding movement.

- 15 -

In order to construct the carton, it is formed by first folding panels 310, 312, 314, 316, 318 about fold lines 320, 322, 324 and 326 to form a tubular structure whereby inner and outer side wall panel 310 and 318 overlap, at least in part, and are secured together by suitable securing means, for example glue or other suitable means known in the art. Optionally, 5 support panel 340 and glue flap 342 are secured to the inner face of outer side panel 318 and end panel 316 respectively. Articles are then loaded through the top or base of the carton by relative movement.

Thereafter the top and base are formed whereby the outer panels 328, 336 are folded about 10 fold line 338 into overlapping relationship with inner wall panel 332 and are secured thereto along glue flaps 330 and 334 respectively. Thus the carton is in an erected and loaded condition shown in Figure 15.

In order to open the access flap structure, locking tab 358 is gripped by the user and lifted in 15 an upward direction whereby upper and lower parts of the carton are separated along frangible lines 348 and 356 to be folded about fold line 354, as shown in Figure 16.

In order to reclose the access flap, the locking tabs 350 and 358 of the fastening means are caused to slidably engage the corresponding recesses 361 and 363 respectively whereby a 20 pocket 364 is defined to receive portion 350 to be engaged by the side panels 310, 318 by relative sliding movement between the aforesaid panels.

Beneficially the embodiments of the invention hereinbefore described provided a structure 25 that is sufficiently strong to retain articles and to provide an integral sleeve or enclosed carton. The use of paperboard material provides an environmentally alternative to cartons made from plastic material and the sleeves made from paperboard can include printed matter for marketing purposes.

30 It will be recognised that as used herein, the terms "top", "bottom" and "side" with respect to the panels of the carton (or carton blank) are relative terms, and that the carton (formed from

- 16 -

the blank) may be re-oriented as necessary or as desired. It will be further recognised that rather than the bottom wall being formed from the interlocked panels, the carton blank may be rearranged whereby some other wall such as a top wall or a side wall is formed from the interlocked panels.

5

The invention and its preferred embodiment relate to a carton or a sleeve which is shaped to provide satisfactory rigidity to hold items such as information discs for example floppy or zip discs or foodstuff with a degree of flexibility. The shape of the blank minimises the amount of paperboard required for the carton. The carton can be constructed from a flap cut at 10 collapsed condition to position of use and/or loaded by hand or automatic machinery. It is anticipated the invention can be modified without departing from the scope of the invention: for example, side and end panels can be increased in height or width to provide a carton to receive one or more articles of different shapes and/or sizes. Additionally, the access flap and fastening structure shown in the various embodiments can be applied to other known carton 15 types, for example a fully enclosed carton or wraparound cartons for beverage containers or for foodstuffs, without departing from the scope of invention.

CLAIMS

1. A sleeve for holding information discs or the like, comprising a front panel, a
5 reclosable cover flap for closing an open end of the sleeve, and fastening means for fastening
said cover flap to said front panel after said cover flap is once opened, said fastening means
being detachably connected to the cover flap and secured to said front panel, said fastening
means when detached being engageable with said cover flap by relative sliding movement
between said cover flap and said front panel.

10

2. A sleeve according to claim 1 wherein said fastening means comprises a double layer
securing panel secured to the front panel and when detached said double layer securing panel
defines between an outer layer thereof and said front panel a pocket for receiving a
complementary portion of said cover flap.

15

3. A sleeve according to claim 2 wherein the pocket is formed between a protruding
portion of the outer layer of said double layer securing panel and said front panel.

20

4. A sleeve according to claim 2 wherein at least a portion of the cover flap is two ply
such that said complementary portion comprises a protruding portion of an inner layer of said
cover flap so as to provide a fully flat front face of the sleeve.

25

5. A sleeve according to claim 4 wherein said fastening means is connected to said cover
flap by detachably connecting means which comprises a first frangible line connecting the
inner layer of said two ply portion of the cover flap to an inner layer of said double layer
securing panel and a second frangible line connecting an outer layer of said two ply portion of
the cover flap to the outer layer of said double layer securing panel, said first frangible line
being offset outwardly from said second frangible line to define said pocket and said
complementary portion.

30

6. A blank for forming a sleeve for holding information discs or the like, comprising a back panel, opposed side and end panels hingedly connected to said back panel, a front panel hingedly connected to one of said end panels, a cover flap hingedly connected to the opposing one of said end panels and capable of relative slidable movement with said front panel, and
5 fastening means constructed and arranged to define a pocket for receiving a free edge of the cover flap when the sleeve is set up.

7. A blank according to claim 6 wherein the fastening means comprises a pair of securing panels detachably connected to said cover flap by detachably connecting means and
10 hingedly connected to each other to be capable of forming a double layer panel adapted to be secured to the front panel.

8. A blank according to claim 6 or claim 7 wherein the cover flap comprises inner and outer layers hingedly connected together along a common end edge.
15

9. A carton for holding one or more articles, comprising a reclosable access flap to close parts of a double ply carton wall, said access flap being detachably connected at one of its ends to the said double ply carton wall, and fastening means for cooperating with a panel of said double ply carton wall to retain said access flap in a closed position after said access flap
20 is detached from said double ply carton wall.

10. The carton as claimed in claim 9 wherein said access flap is a double ply structure and the inner and outer layers of the access flap are connected to inner and outer layers of the double ply carton wall along first and second frangible lines wherein at least a portion of the
25 first frangible line is offset from the second frangible line so that when the access flap is detached from the carton wall along the first and second frangible lines, the offset portion of the first frangible line defines said fastening means.

11. The carton as claimed in claim 10 wherein said fastening means comprises a locking first tab defined by said portion of said first frangible line and a second locking tab defined by
30 at least a portion of the second frangible line.

12. The carton according to claim 10 wherein the inner and outer layers of the access flap are frangibly connected respectively to the inner and outer layers of said carton wall to be severed therefrom when the access flap is detached from the carton wall.

5

13. The carton according to claim 12 wherein the access flap further comprises securing means for detachably connecting the inner and outer layers of the access flap together.

14. A blank for forming a carton for holding one or more articles comprising a top wall panel, a base wall panel, opposed side panels hingedly connected together in series and end wall panels, wherein there further comprises an access flap hingedly connected to said top and base wall panels and fastening means so constructed and arranged to define a pocket for receiving part of the access flap when the carton is set up.

15. 15. A blank according to claim 14 wherein the fastening means comprises a locking tab panel frangibly connected by frangible connection means to the adjacent side wall.

16. A blank according to claim 14 wherein the access flap comprises inner and outer panels hingedly connected to the top and bottom wall panels respectively along an end edge.

20

17. A blank for forming a carton as claimed in any of claims 9 to 13.

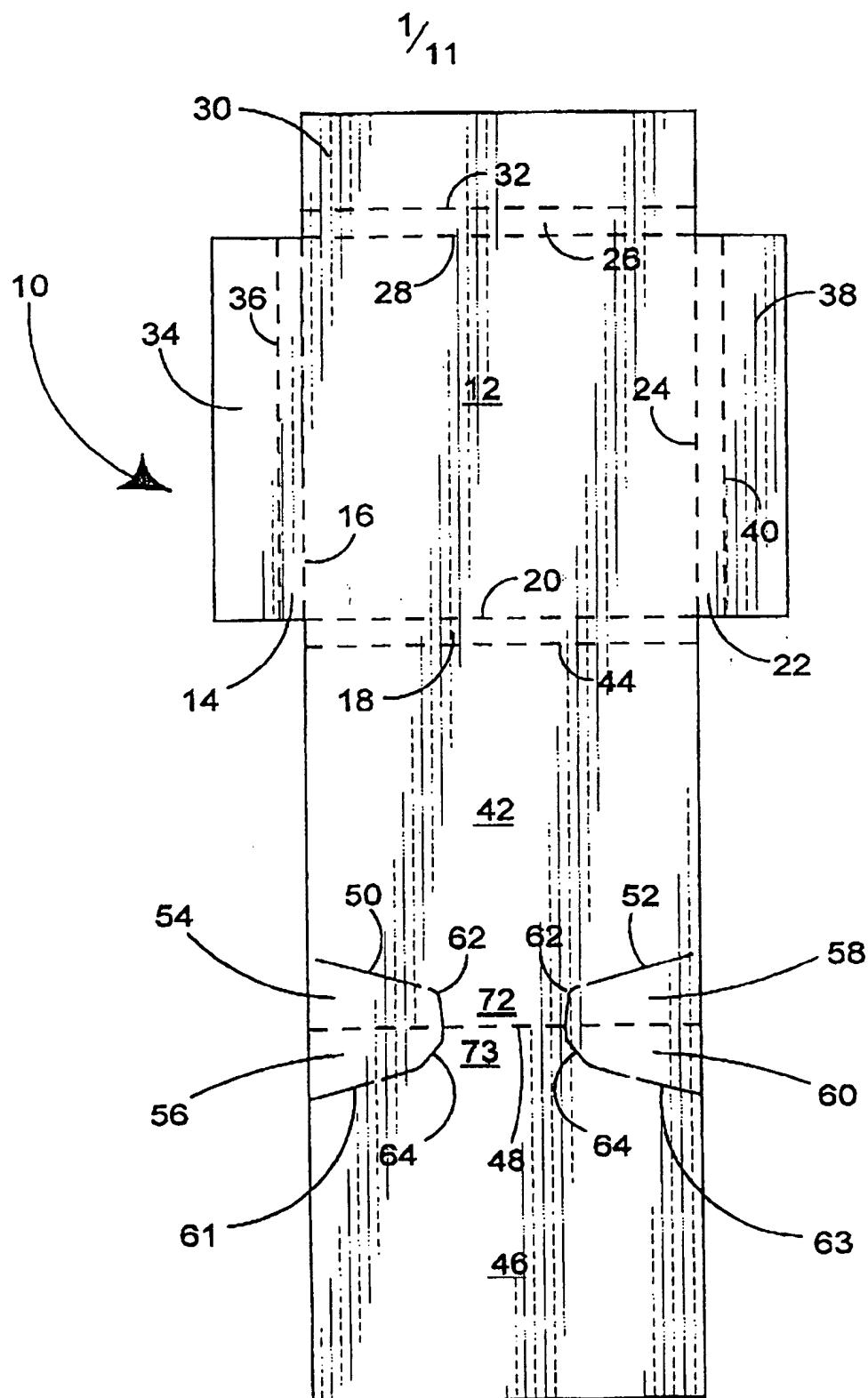


FIGURE 1

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2/11

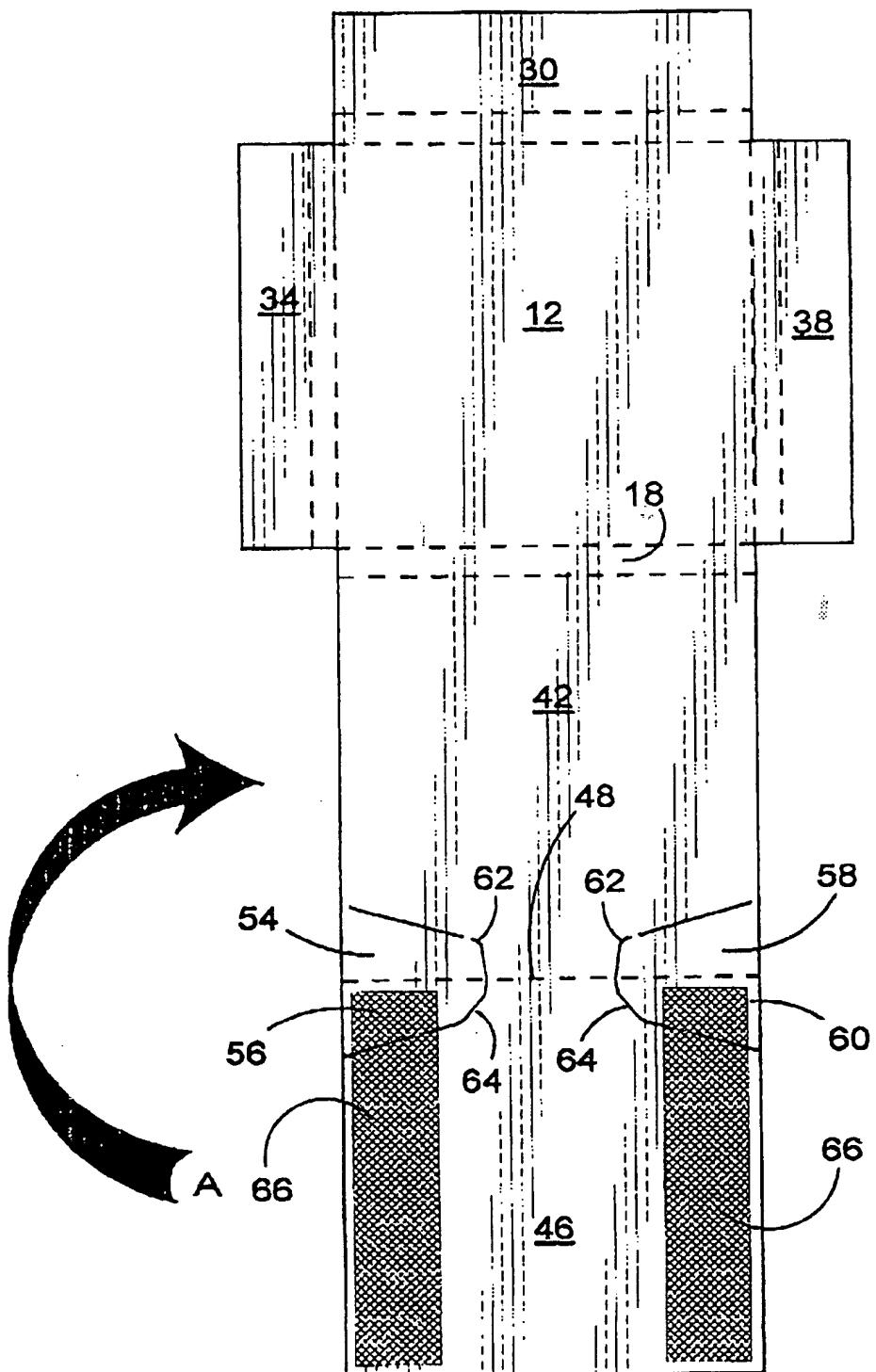


FIGURE 2

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3/11

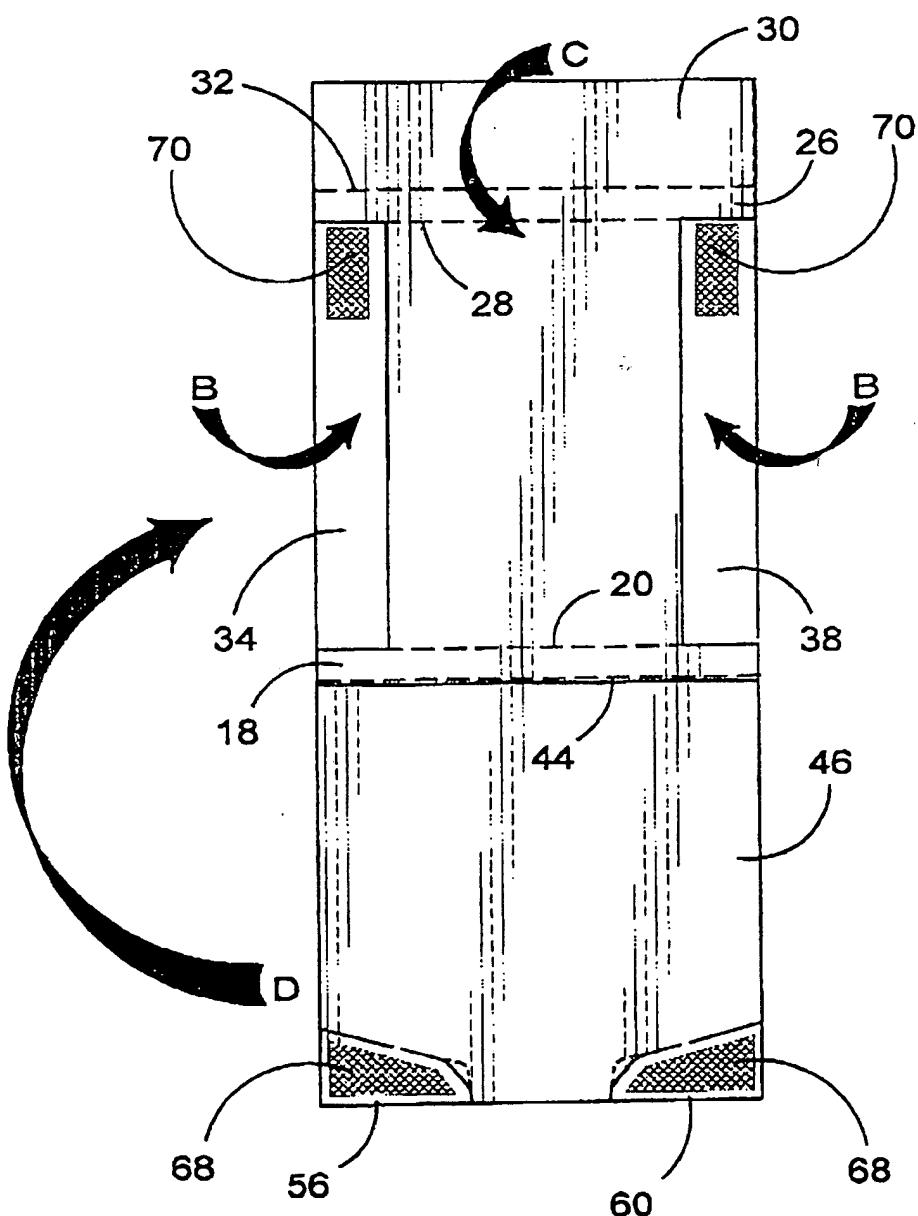


FIGURE 3

4/11

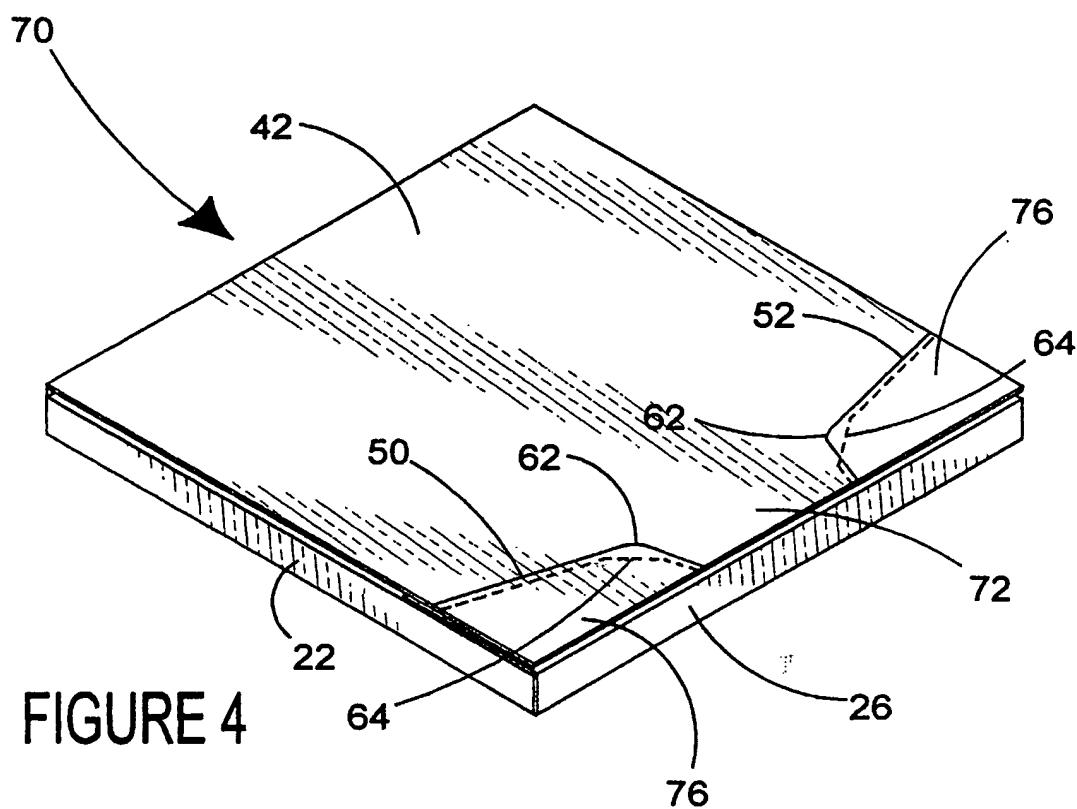


FIGURE 4

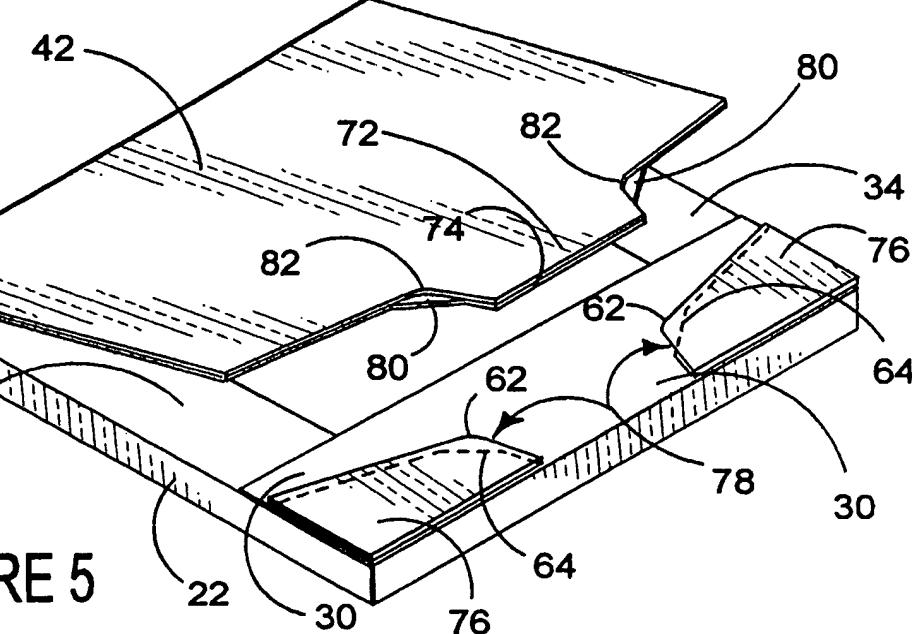
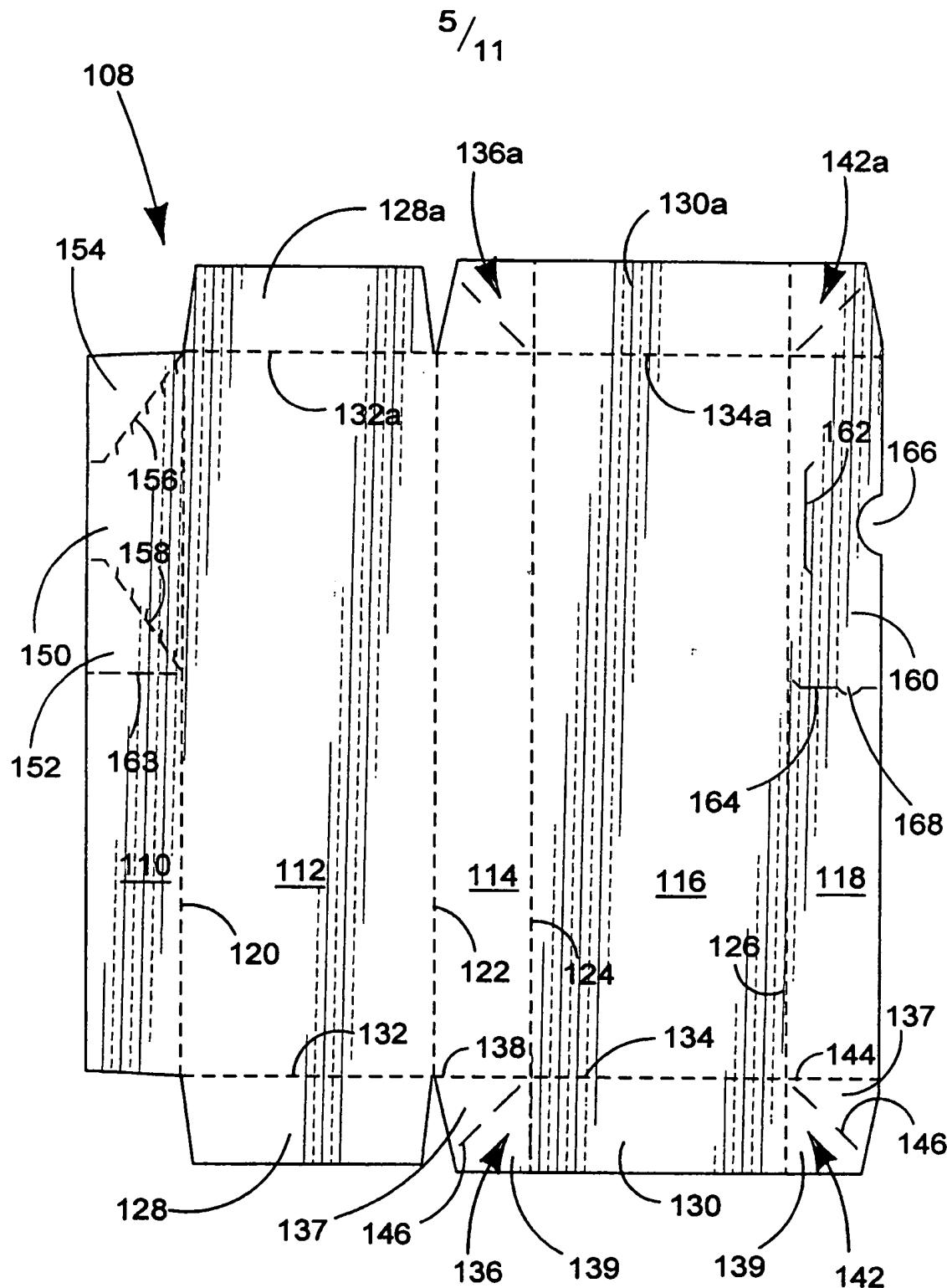
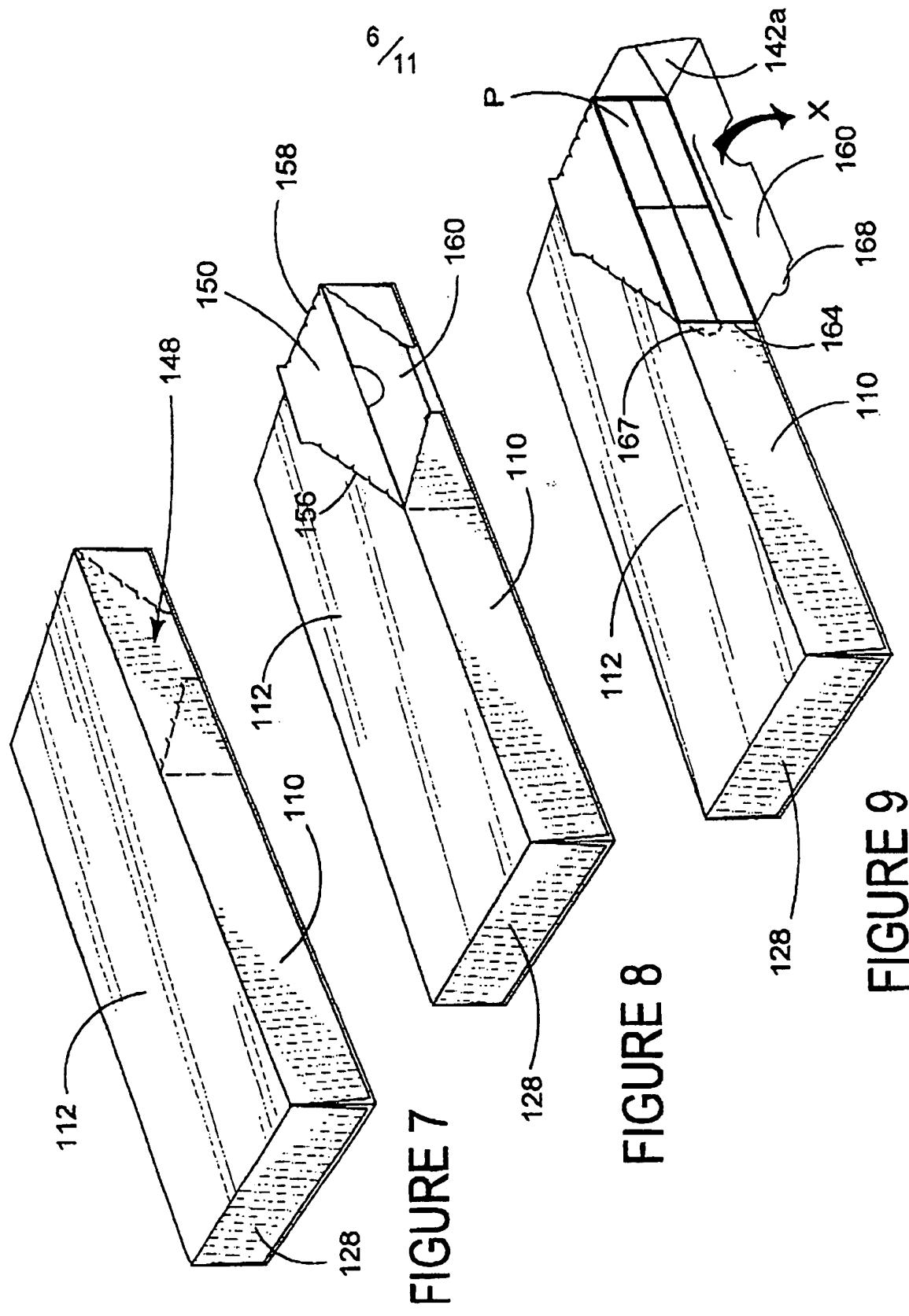


FIGURE 5

**FIGURE 6**

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7/11

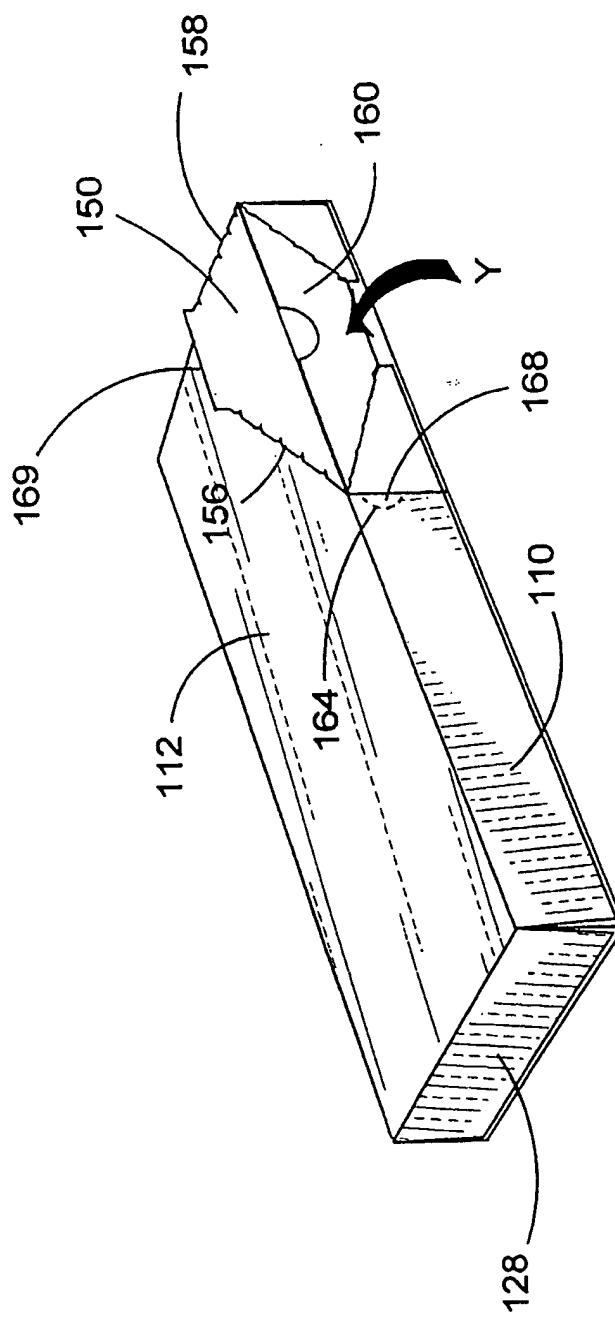
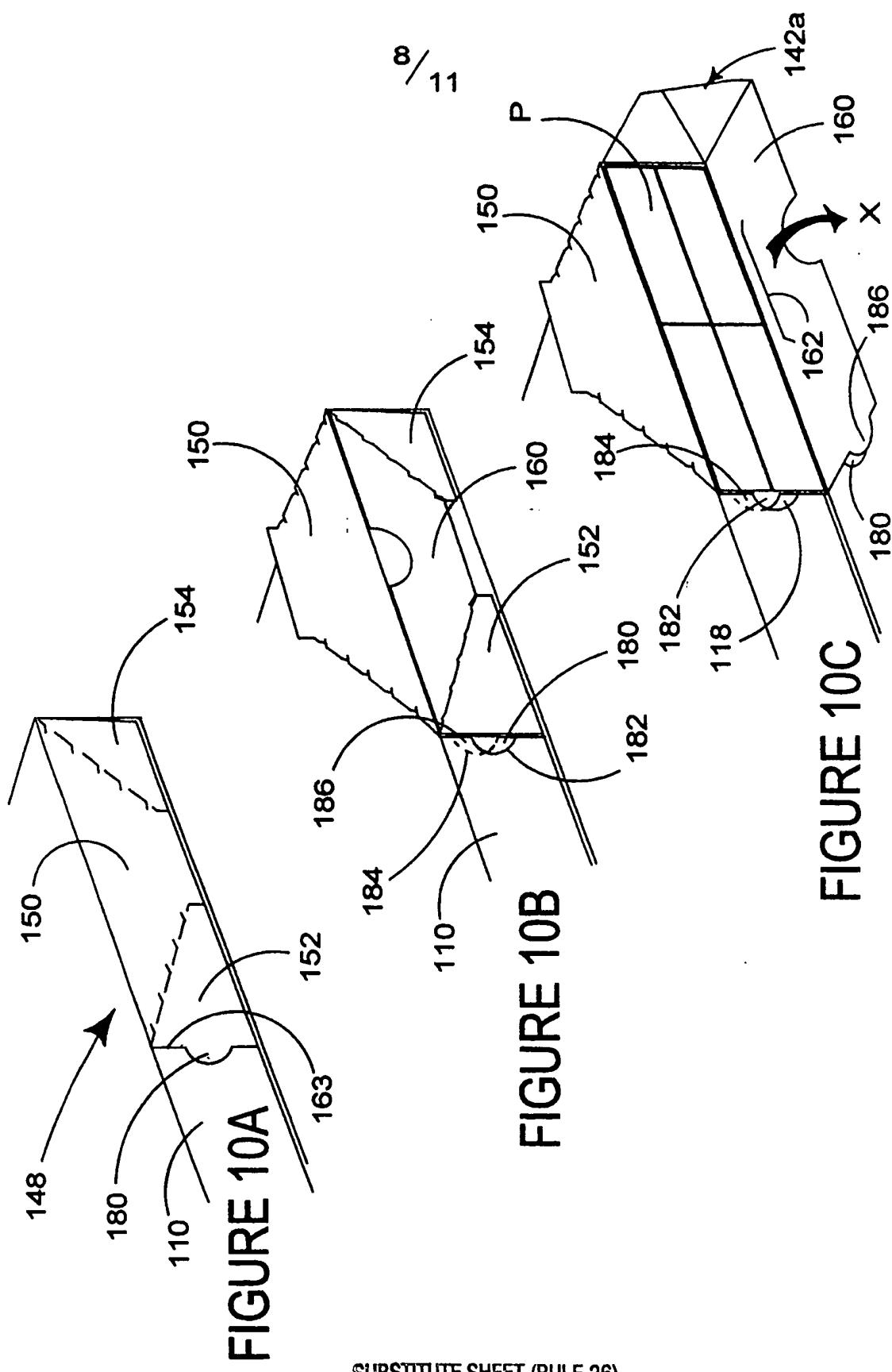


FIGURE 9A



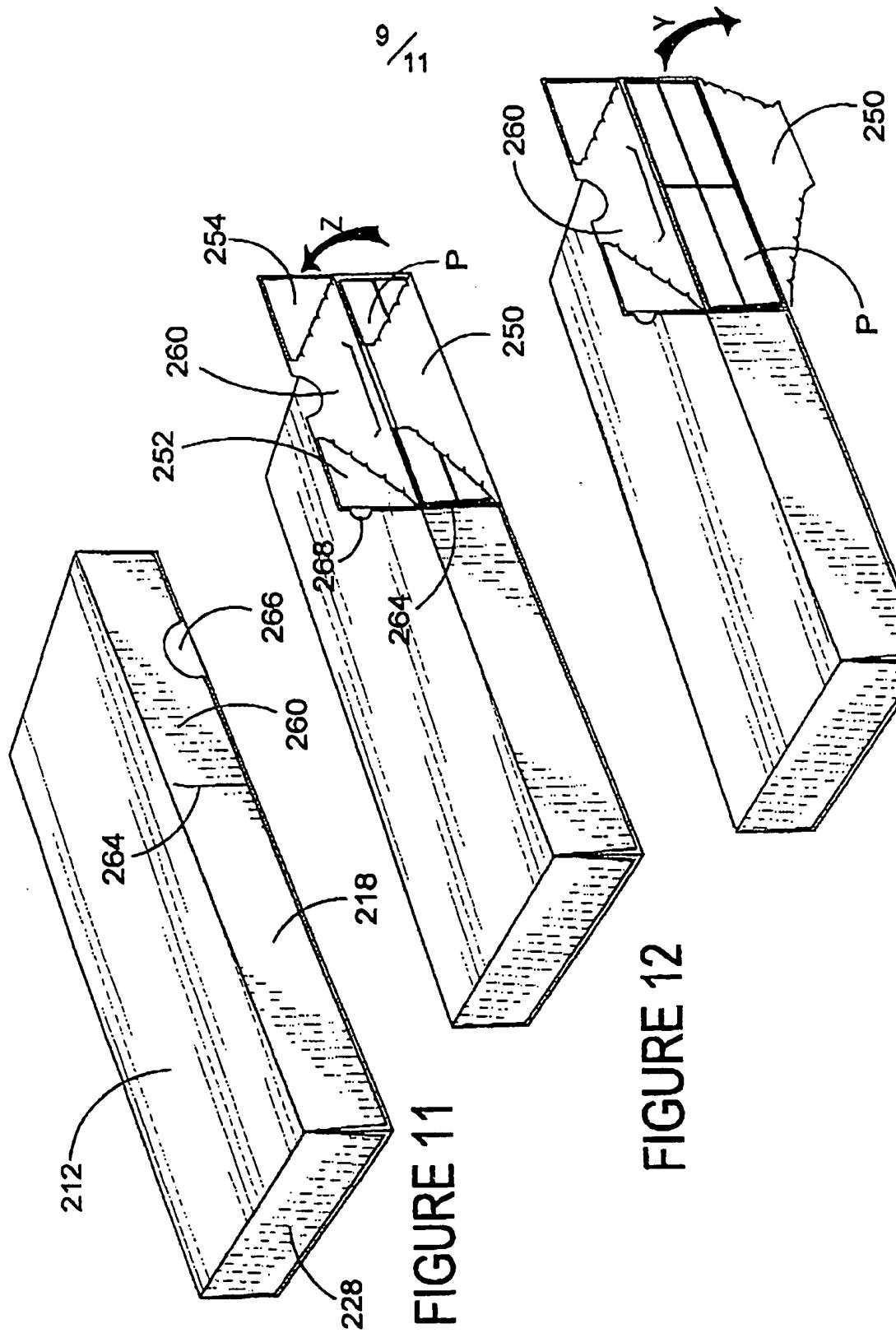


FIGURE 11

FIGURE 12

FIGURE 13

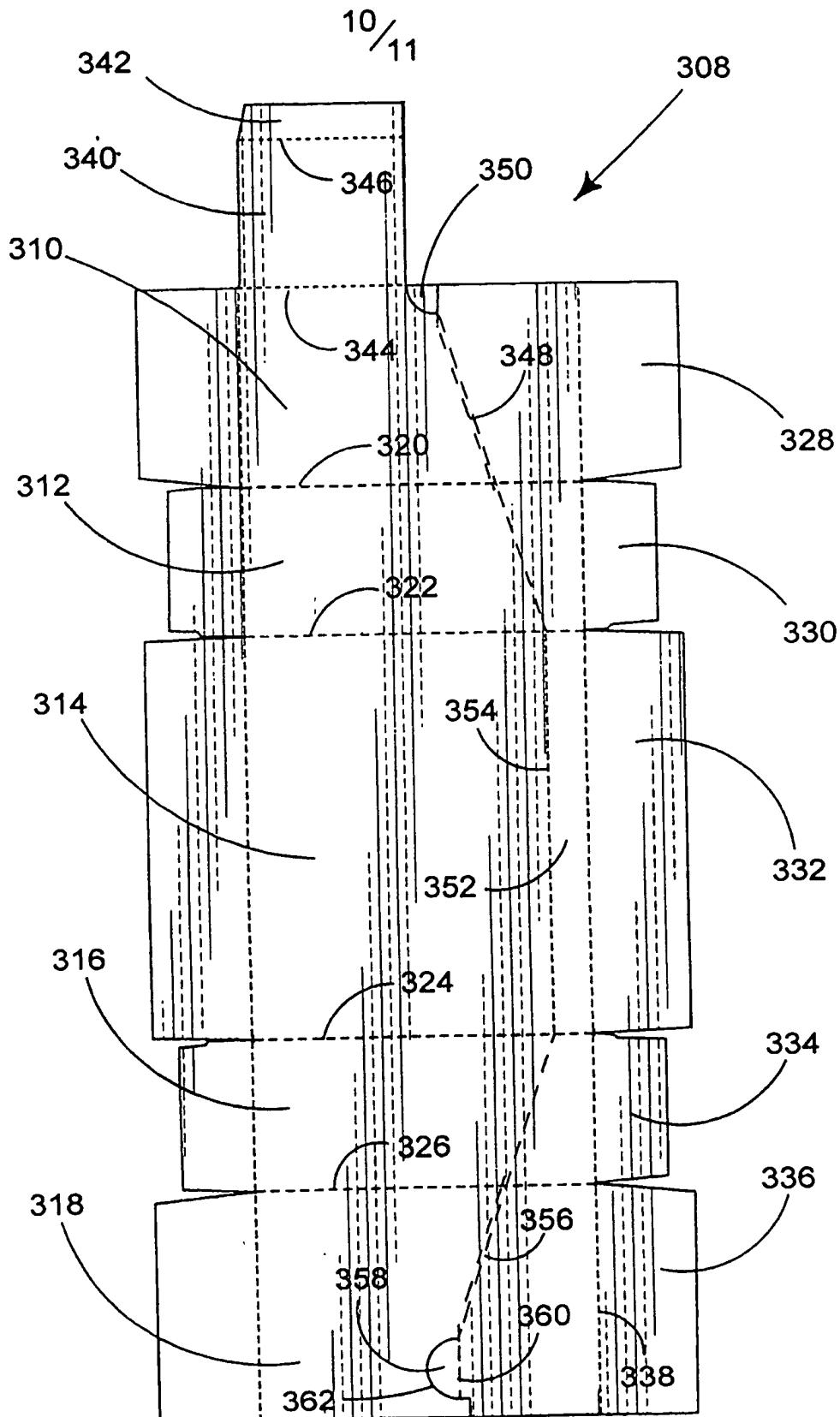


FIGURE 14

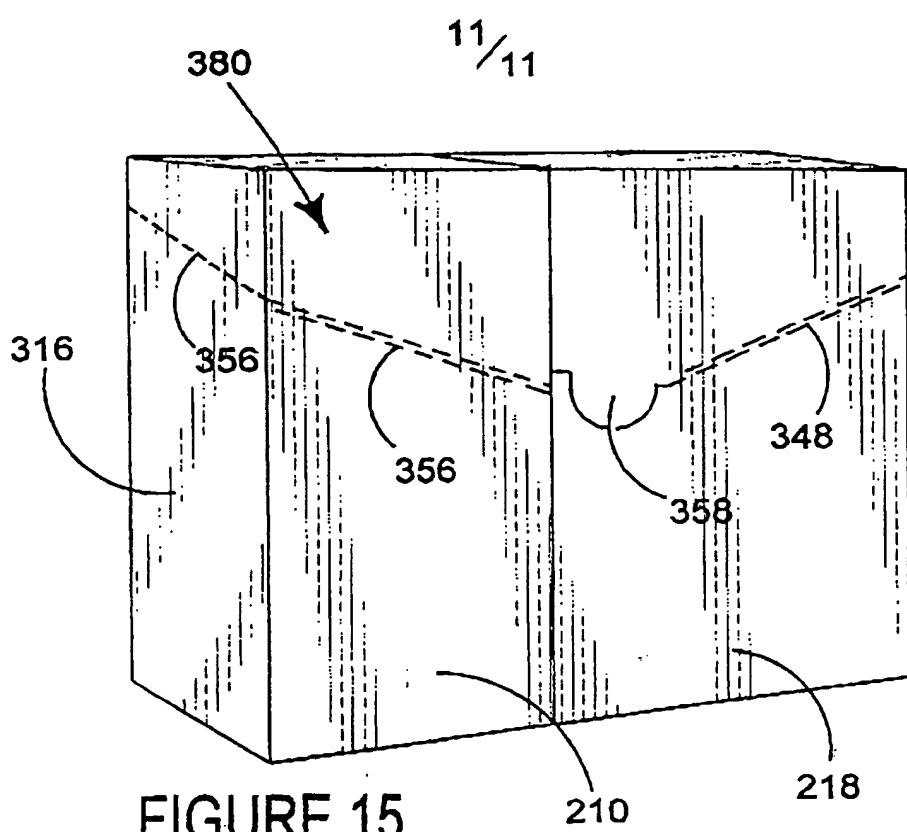


FIGURE 15

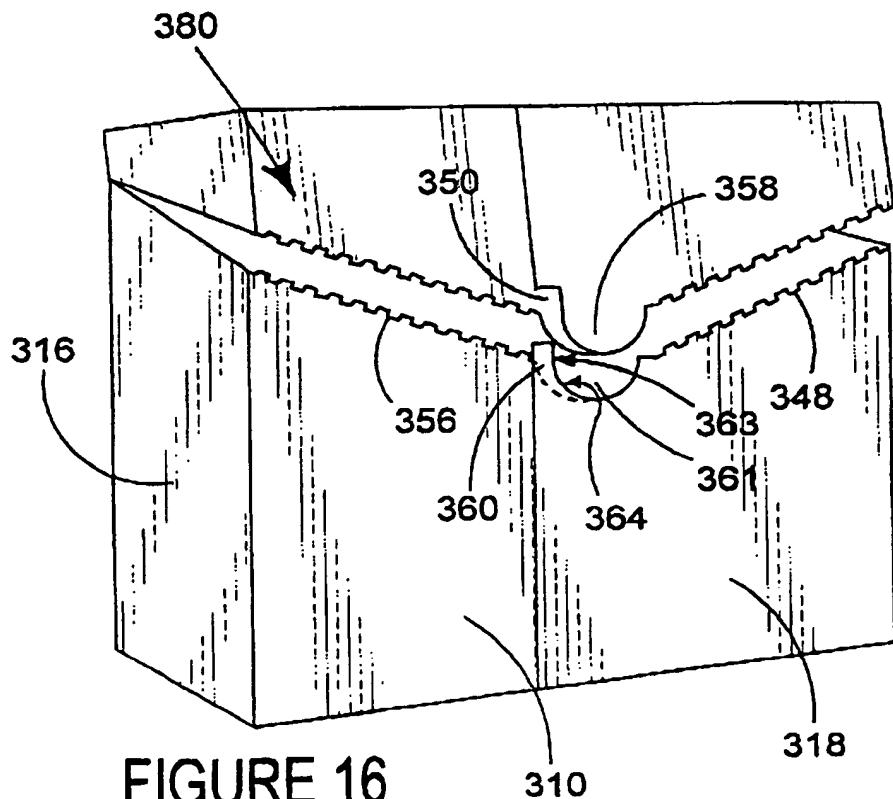


FIGURE 16

INTERNATIONAL SEARCH REPORT

Int'l. Appl. No.

PCT/US 99/24655

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B65D5/54

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 640 446 A (GENERAL FOODS) 8 February 1972 (1972-02-08) the whole document	1,6,9,14
A	US 1 988 582 A (ROBERT GAIR) 22 January 1935 (1935-01-22) the whole document	1,6,9,14
A,P	DE 198 34 947 A (DANAPAK) 16 September 1999 (1999-09-16) the whole document	1,6,9,14
A	US 4 215 783 A (BROWN) 5 August 1980 (1980-08-05) column 5, line 51 -column 7, line 66; figures 1-5	1,6,9,14
		-/-

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Patent family members are listed in annex.

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Date of the actual completion of the International search

29 February 2000

Date of mailing of the International search report

13/03/2000

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INTERNATIONAL SEARCH REPORT

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PCT/US 99/24655

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CH 527 735 A (SCHWEIZERISCHES INDUSTRIE-GESELLSCHAFT) 31 October 1972 (1972-10-31) the whole document _____	1,6,9,14

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/US 99/24655

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 1988582 A	22-01-1935	NONE	
DE 19834947 A	16-09-1999	NONE	
US 4215783 A	05-08-1980	NONE	
CH 527735 A	15-09-1972	NONE	

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